

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

Claims 1-8 (cancelled)

Claim 9 (new): A fuel cell installation, comprising
a reformer stage heatable with a gas burner for steam reforming of
hydrocarbons and steam into hydrogen and at least one further reformer product,
at least one shift stage downstream from the reformer stage for chemical
processing of the at least one further reformer product and
at least one fuel cell stack having a plurality of anodes and cathodes with
corresponding inlet and outlet connections downstream from the shift stage for converting the
hydrogen into water for generating electricity and heat, wherein
the fuel cell stack is a high-temperature fuel cell stack having an operating
temperature between about 100°C and about 200°C,
the shift stage is connected at an outlet end to the inlet connection of the
anodes of the fuel cell stack without a heat exchanger, and
the outlet connection of the anodes of the fuel cell stack is connected to an air
inlet connection on the gas burner.

Claim 10 (new): The fuel cell installation according to claim 9, wherein
the fuel cell stack is provided with proton-conducting high-temperature electrolyte
membranes.

Claim 11 (new): The fuel cell installation according to claim 10, wherein
the high-temperature electrolyte membranes comprise at least one basic material and at least
one dopant, further wherein the dopant is a reaction product of an at least dibasic inorganic

acid with an organic compound, and the reaction product has an unreacted acidic hydroxyl group of the inorganic acid or the condensation product of this compound with a polybasic acid.

Claim 12 (new): The fuel cell installation according to claim 9, wherein a temperature regulating device is provided to ensure the operating temperature of about 100°C to about 200°C, the temperature regulating device configured to shut down the fuel cell stack at an operating temperature above about 200°C.

Claim 13 (new): A method for starting the fuel cell installation of claim 9, the method comprising the steps of:

in a first startup step, passing preheated air through the reformer stage, through the shift stage and, on an anode end, through the fuel cell stack, whereby air flowing through the fuel cell stack on the anode end is supplied to the gas burner which is provided for heating the reformer stage; and

in a second startup step, turning off the air supply and turning on at least a steam supply,

wherein air is exclusively supplied to the reformer stage and the shift stage when starting up the fuel cell installation.

Claim 14 (new): The method according to claim 13, wherein the temperature of the air used to start the fuel cell installation increases with an increase in a length of the first startup step.

Claim 15 (new): A method for shutting down the fuel cell installation of claim 9, the method comprising the steps of:

in a first shutdown step shutting down a hydrocarbon gas supply and a steam supply; and

in a second shutdown step, turning on an air supply such that air is sent

through the reformer stage, through the shift stage and, on an anode end, through the fuel cell stack, whereby air flowing through the fuel cell stack on the anode end is sent to the gas burner which is provided for heating the reformer stage,

wherein air is exclusively supplied to the reformer stage and the shift stage during startup and shutdown of the fuel cell installation.

Claim 16 (new): The method according to claim 15, wherein the temperature of the air used to shut down the fuel cell installation decreases with an increase in length of the second shutdown step.

Claim 17 (new): The method of claim 13, wherein the second startup step further comprises turning on a hydrocarbon gas supply.